OL'GINA, F.P., dotsent; KOSHIK, T.F.; NECHIPORENKO, V.P.

Dissecting aortic aneurysm as a result of physical over-exertion. Vrach. delo no.11:121-122 N'63 (MIRA 16:12)

1. Kafedra gospital'noy terapii (zav. - prof. Ya.V.Borin) i patologicheskoy anatomii (zav. - prof. A.V.Sosunov) Ivano-Frankovskogo meditsinskogo instituta.

KOSHIK, T.F. (Stanislav)

Case of complex congenital heart disease. Vrach. delo no. 1:129 '61. (MIRA 14:4)

1. Kafedra patologicheskoy anatomii (zav. - dotsent G.A. Myrsikov) Stanislavskogo meditsinskogo instituta.
(HEART—ABNORMITIES AND DEFORMITIES)

MARCHUK, Ye.A.; KOSHIK, T.F.

Cavernous angioma of the vaginal wall. Akush. i gin. 40 no.2: 127-128 Mr-Ap '64. (MIRA 17:11)

1. Kafedra akusherstva i ginekologii (zav. - prof. A.V. Anisimov) i kafedra patologicheskoy anatomii (zav. - prof. A.V. Sosunov) Stanislavskogo meditsinskogo instituta.

L 02134-67 EWT(1) GW

ACC NR: AP6035995 SOURCE CODE: UR/0021/66/000/006/0807/0809

15
B

AUTHOR: Koshik, Yu. O.

ORG: Kiev State University, Kiev (Kyyivs'kyy derzhavnyy universytet)

TITLE: Geomorphological structure of the Teterev River Valley

SOURCE: AN UkrRSR. Dopovidi, no. 6, 1966, 807-809

TOPIC TAGS: geomorphology, geology/Teteriv River Valley

ABSTRACT: The basic features of the geomorphological structure of the Teterev River Valley within the northwestern part of the Ukrainian crystalline shield are described. Four terraces were found above the flood plain. Their morphometric and geological peculiarities are described. This papor was presented by Academician AN UkrSSR V. G. Bondarchuk. Orig. art. has: 1 table. [JPRS: 37,058]

SUB CODE: 08 / SUBM DATE: 17May65 / ORIG REF: 004

Card 1/1

0922 0522

MEDVEDEV, A.N., starshiy leytenant med.sluzhby; KOSHIL', O.I., starshiy leytenant med.sluzhby

Organization of medical control of physical training and sports in an army unit. Voen.-med. zhur. no. 2:67-68 F '61. (MIRA 14:2)

(PHYSICAL EDUCATION AND TRAINING, MILITARY)

GORSKAYA, N.M.; KOSTERIN, S.I.; KOSHIMAROV, YU.A. (Moscow):

"Convective heat transfer on a plate in a supersonic rarefied gas flow".

report presented at the 2nd All-Union on Theoretical and Applied Mechanics, Moscow, 29 Jan - 5 Feb 64.

KOSHIN, I.I., kandidat tekhnicheskikh nauk.

Experimental study of the effect of structural shape of steel construction elements on atmospheric corrosion resistance. Sbor. trud. MISI no.10:65-83 '56. (MLRA 9:11)
(Building, Iron and steel)
(Steel, Structural--Corrosion)

KOSHIN, V. M.

USSR/Physics - Crystallography Apr 53

"Review of 'New Investigations in Crystallography and Crystallochemistry,'" (V. A. Frank-Kamenetskiy, reviewer)

Usp Fiz Nauk, Vol 49, No 4, pp 628-630

Reviewed book presents abridged translations of foreign articles processed by G. D. Vigdorovich, A. S. Anishkina, B. V. Nenart, T. L. Khotsyanova, V. M. Koshin, N. D. Katsenelenbaum, Yu. G. Zagalskiy, and N. A. Pobedimskaya, with preface by Prof. G. B. Bokiya the editor.

267T92

SMIRNOV, A.I., kand.tekhn.nauk; PETROVA, V.N., inzh.; SKVORTSOV, O.S. kand.tekhn.nauk; Prinimali uchastiye: VINOGRADOVA, Ye.I., inzh.; ALEYNIKOVA, G.S., inzh.; KOSHINA, A.V., tekhnik; PETUSHKOVA, I.K., inzh., red.

[Efficient kinds of track structures of narrow-gauge railroads (750 mm.gauge).] Ratsional'nye tipy verkhnego stroeniia puti zheleznykh dorog (kolei 750mm). Moskva, Izd-vo "Transport," 1964. 148 p. (Moscow. Vsesoyuznyy nauchno-issledovatel'skiy institut zheleznodorozhnogo transporta. Trudy, vol. 271) (MIRA 17:5)

YES'KINA, T.M.,(Arzamasskaya oblasti); FEDOROVA, P.G.,(Voroshilovgrad); KOSHINA, M.I.,(Stavropol'); SOSNOVIK, I.Ya., doktor meditsinskikh nauk (Moskva); STEPANOVA, P.D., starshaya meditsinskaya sestra(Sochi)

Work of the council of nurses. T.M. Es'kina and others. Med. sestra no.1:24-27 Ja. '56. (MLRA 9:3)

1. Predsedatel' Soveta meditsinskikh sester (for Yes'kina, Fedorova, Koshina)
(NURSES AND NURSING)

43767

S/653/61/000/000/016/051
I007/I207

15 K5.10

AUTHORS: Kogan, A.M., Guterman, V.M., and Koshina, M.M.

TITLE: Microstructure analysis as one of the methods for studying the structure of glass-reinforced plastics

SOURCE: Plastmassy v mashinostroyenii i priborostroyenii. Pervaya respublikanskaya nauchno-tekhnicheskaya konferentsiya po voprosam primeneniya plastmass v mashinostroyenii i priborostroyenii, Kiev, 1959. Kiev, Gostekhizdat, 1961, 192-205

TEXT: Detailed results are reported of investigations carried out by UNIIPTUGLEMASh on glass-reinforced plastics in order to find structural characteristics that would permit improved sampling inspection of finished plastics products, the design of new types of such products and of technological processes for their production. Investigations on polished microsections by means of metallurgical

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S/653/61/000/000/016/051
I007/I207

Microstructure analysis...

microscopy, were conducted in the following direction: study of the basic structural elements of plastics, texture, mean fiber-diameter, and ratio between the basic structural components. In the research, two methods were applied: the linear method developed by Rasiwal and the point method devised by Glagolov. The microstructural analysis was also applied to study the action of tensile stresses and the effect of working pressure on structure. The results proved that microstructural analysis is a valuable tool in revealing the nature of failure of glass-reinforced plastics and may be used in the study of mechanism of failure under the action of loads, pressure, etc. There are 1 figure and 13 tables.

Card 2/2

KOSHINA, Z.P.

Hygienic characteristics of organic components of food in children's homes. Trudy LSGMI 25:12-24 '55. (MIRA 12:8)

1. Kafedra gigiyeny pitaniya Leningradskogo sanitarno-gigiyenicheskogo meditsinskogo instituta (zav. kafedroy — dotsent Z.M.Agranovskiy).
(FOOD,
organic composition of food for child. nutrition (Rus))

LEBEDEVA, Ye.A.; KOSHINA, Z.P.

Preparation of menus in closed children's institutions.
Trudy LSGMI 25:41-64 '55. (MIRA 12:8)

1. Kafedra gigiyeny pitaniya Leningradskogo sanitarno-gigiyenicheskogo meditsinskogo instituta (zav. kafedroy-dotsent Z.M.Agranovskiy).
(NUTRITION,
in child. institutions (Rus))

KOSHINA, Z.P.; LEBEDEVA, Ye.A.; GESSEN, A.I., redaktor; SHEVCHENKO, F.Ya., tekhnicheskiy redaktor

[Menus and calculation tables for the chemical content of food rations for children's homes] Meniu-raskladki i raschetnye batlitsy khimicheskogo sostava pishchevykh ratsionov dlia detskikh domov. Moskva, Gos. Izd-vo meditsinskoi literatury, 1956. 79 p. (Leningrad. Sanitarno-gigienicheskii meditsinskii institut. Trudy, no.24) (MLRA 9:12)
(FOOD
menu & tables of chem. content of food rations in children's homes)

KOSHINA, Z. P.

Characteristics of protein metabolism in old age. Trudy LSGMI 67: 18-39 '62. (MIRA 15:7)

1. Kafedra gigiyeny pitaniya s klinikoy alimentarnykh zabolevaniy Leningradskogo sanitarno-gigiyenicheskogo meditsinskogo instituta (zav. kafedroy - prof. Z. M. Agranovskiy).

(PROTEIN METABOLISM) (GERIATRICS)

KOSHINA, Z. P.; MAYKOVA, O. P.; KHARAKHORKINA, K. D.

Assimilability of proteins, fats and carbohydrates in old age. Trudy LSGMI 67:105-113 '62. (MIRA 15:7)

1. Kafedra gigiyeny pitaniya s klinikoy alimentarnykh zabolevaniy Leningradskogo sanitarno-gigiyenicheskogo meditsinskogo instituta (zav. kafedroy - prof. Z. M. Agranovskiy).

(PROTEIN METABOLISM) (FAT METABOLISM)
(CARBOHYDRATE METABOLISM) (GERIATRICS)

KOSHINA, Z. P.; LEBEDEVA, Ye. A.; MAYKOVA, O. P.; KHARAKHORKINA, K. D.

Metabolism in old age with a dietary ration of products with a limited cholesterol content and plant oils partially replacing animal fats. Trudy LSGMI 67:121-148 '62. (MIRA 15:7)

1. Kafedra gigiyeny pitaniya s klinikoy alimentarnykh zabolevaniy Leningradskogo sanitarno-gigiyenicheskogo meditsinskogo instituta (zav. kafedroy - prof. Z. M. Agranovskiy).

(CHOLESTEROL) (NUTRITION) (GERIATRICS) (METABOLISM)

KOSHINA, Z. P.; LEBEDEVA, Ye. A.; MAYKOVA, O. P.; KHARAKHORKINA, K. D.

Metabolism in old age with a dietary ration enriched by soybean phosphatides. Trudy LSGMI 67:149-174 '62. (MIRA 15:7)

1. Kafedra gigiyeny pitaniya s klinikoy alimentarnykh zabolevaniy Leningradskogo sanitarno-gigiyenicheskogo meditsinskogo instituta (zav. kafedroy - prof. Z. M. Agranovskiy).

(SOYBEAN AS FEEDING STUFF) (METABOLISM)
(LECITHIN) (GERIATRICS)

KOSHINOVA, L. A.

The relation between bacteriological and chemical indices in self-purification of soil in inhabited areas. J. hyg. epidem., Praha 5 no.4:492-500 '61.

1. A. N. Sysin-Institut fur allgemeine und Kommunalhygiene, Akademie der medizinischen Wissenschaften UdSSR, Moskau.

(SOIL microbiol) (SEWAGE microbiol)

KOSHINSKIY, S.D.

Synoptic conditions causing strong southeasterlies in the Makhachkala region. Sbor.rab.po sinop. no.2:16-36 '58.
(MIRA 12:6)

1. Bakinskoye byuro pogody.
(Makhachkala region--Winds)

KOSHINSKIY, S.D.

Some features of the distribution of winds over the Caspian Sea during heavy storms on the Apsheron Peninsula. Sbor.rab.po sinop. no.2:37-52 '58. (MIRA 12:6)

1. Bakinskoye byuro pogody.
(Caspian Sea--Winds)
(Apsheron Peninsula--Storms)

AUTHOR: Koshinskiy, S. D. SOV/50-58-9-6/19

TITLE: The Plotting of Charts of the Windfields Over the Sea (O postroyenii kart poley vetra nad morem)

PERIODICAL: Meteorologiya i gidrologiya, 1958, Nr 9, pp. 27 - 31 (USSR)

ABSTRACT: During recent years it became necessary to plot charts of wind fields of different kind (climatic, extreme, mean for a certain period and instantaneous charts). There is a relation to the investigations of the tide conditions of inland and border seas. A number of difficulties arises in connection with this task, above all, how the velocity and direction of wind can be determined over the open sea where apart from few exceptions, no direct observations could be made. At the moment we have two ways to overcome these difficulties: a) Exploitation of the atmospheric pressure, b) reproduction of direct observations by using the baric field only so far as it is necessary for the plotting of the current lines and the correction of the distribution of wind velocities. Method a) is based upon theoretical theorems, method b) upon purely practical considerations. Both methods show specific advantages and

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disadvantages. Thus method b) is somehow subjective. Method a) is, however, not quite objective and does not always correctly reproduce wind conditions over the open sea. Taking as an example the north wind on the Apsheronskiy penisula the author explains the influence of the mentioned factors as well as of others (Fig 1a). As it may be clearly seen wind velocity was during the first half of the period of storm by the 1,8 fold less intensitive than in the second half at the same value of the baric gradient. This is probably based upon the fact that as a result of inertia the movement is considerably retarded in its development with respect to the formation of the baric field. The factor of the not stationary baric field has to be particularly considered in plotting the chart of the instantaneous distribution of winds over the sea during the intensive formation of synoptic processes. In the case this is not done a deviation of 4-6 m/second is possible (Fig 1a). On the other hand it is possible to neglect the influence of the stationary baric field in the plotting of mean and instantaneous charts in the case of a quasi-stationary field. Precipitations, especially when they are intensive, have a direct influence on the character of horizontal trans-

mission. In order to determine this influence 319 northern storms were analyzed on Apsheron in the years 1950 - 1954 and mean values $\Delta P$ between Derbent and Baku were analyzed at the moment of surpassing the danger limit (12-14 m/second). (Fig 1b). Thus it may be concluded that in the case of plotting wind field charts without taking into account the weather considerable errors may arise with respect to the velocity of wind over the open sea. The third factor is finally the orography of the littoral which has a great influence on the wind conditions of those seas the coasts of which are close to mountain chains. The higher the mountains and the larger their horizontal extension the greater will be their influence. As an example a heavy storm is mentioned which occurred from November 20 - November 21 (Figs 2a and b). Comparing the charts we may see the way of deformation of the Baku north wind under the influence of orography of the middle west coast of the Caspian Sea. In this area the current lines can only be plotted on the basis of observations. In individual cases of storm activity at least the well-known interactions between

wind and baric field are not satisfied in the middle Caspian Sea. There are 3 figures, 1 table, and 3 references, all of which are Soviet.

KOSHINSKIY, S. D., Cand of Geogr-Sci --- (diss) "Bakinskiy North," Moscow, 1959, 13 pp (Main Administration of the Hydrometeorological Service Under the Council of Ministers, and the Central Institute of Weather Forecasts) (KL, 6-60, 121)

3(7) SOV/50-59-5-4/22

AUTHOR: Koshinskiy, S. D.

TITLE: Orographic Disturbances in the Wind Field (Orograficheskiye vozmushcheniya v pole vetra)

PERIODICAL: Meteorologiya i gidrologiya, 1959, Nr 5, pp 25 - 30 (USSR)

ABSTRACT: An air current is deformed when it hits on obstacles in its way. The character and extension of the deformation depends on the morphological features of the landscape and on the direction in which the current flows around the obstacle. Also it is not indifferent whether the wind flows around the obstacle from the left of from the right. An attempt is made here to determine the dependence of the wind velocity on the baric field on the west shore of the Caspian Sea in north-west and south-east storms. A chart of the distribution of the mean wind velocities and of the baric field according to observations during a heavy storm on November 12-13, 1952 is given here. In order to compare the wind velocity ascertained by observations with the one calculated by the baric field, the following procedure was used: In 6 points of the northern and middle Caspian Sea (at equal distances from the east and west shores), the wind velocity was determined

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by the actual observations and the velocity of the geostrophic wind. Formula (1) is adhered to in south-east winds, but by far not so in north-west winds. The following 3 features for the correlation between wind and baric field during the Baku North are pointed out: First, the wind along the whole west shore of the middle Caspian Sea is, in most cases, directed at a nearly right angle to the isobars, i.e. the wind direction coincides practically with the baric gradient. Second, the dependence of the wind velocity on the baric gradient is not linear. And third, the horizontal motion of the air masses along the west shore of the middle Caspian Sea is very instationary. On the basis of these explanations, it can be said that during a Baku North along the west coast of the middle Caspian Sea the ordinary law of uniformly accelerated motion - formula (3) - applies to most of the cases. After finding out this form of dependence of the wind velocity on the baric gradient unusual for temperate latitudes, tests were carried out to determine in how many cases of heavy storms on the Apsheron Peninsula formula (3) applies, and in how many cases the ordinary baric wind law. These tests showed: 1) During the warm half of the year, calcula-

tions by formula (3) offer satisfactory results in 82% of the cases, and during the cold half-year - 84%. The ordinary baric wind law, formula (1), is more or less compiled with in all the other cases. 2) Among all the storms on the Apsheron Peninsula, the correlation of which with the baric field is expressed by formula (3), the calculated velocity differed from the mean velocity over the whole area in 94% of the cases by $\pm 3 \mp 4$ m/sec. 3) Noticeable deviations between these two velocities mainly occur in 2 cases during the cold half-year: when the baric field suffers intense deformations, and when cloud (oblozhnyy) precipitations fall along the whole west coast. In the warm half-year, the wind is influenced by the breeze and by the turbulence coefficient. The analysis of two special cases of circulation around the east and south-east spurs of the Caucasus shows that this process does not pass in the same way. Formula (1) applies if in the displacement of the air masses from south to north the mountains remain on the left. Formula (3) applies for a displacement from north to south, the mountains remaining on the right.

Orographic Disturbances in the Wind Field SOV/5o-59-5-4/22

There are 3 figures, 3 tables and 2 Soviet references.

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KOSHINSKIY, S.D.

Distribution of winds over the Caspian Sea during the Baku northerlies. Trudy Tbil.NIGMI no.5:91-101 '59. (MIRA 13:6)
(Caspian Sea--Storms)

KOSHINSKIY, S.D.

Winds in the lower troposphere over the Apsheron Peninsula during the Baku norther. Trudy Tbil. NIGMI no.7:26-37 '60. (MIRA 14:8)

(Apsheron Peninsula--Winds)

KOSHINSKIY, S.D.

Statistical method of studying synoptic conditions resulting in precipitation in Azerbaijan. Meteor. i gidrol. no.9:23-26 S '60.
(MIRA 13:8)
(Azerbaijan--Precipitation (Meteorology))

KOSHINSKIY, S.D.

Synoptic characteristics of the winter of 1953-54 in eastern Transcaucasia. Trudy Tbil.NIGMI no.9:30-35 '61. (MIRA 15:3)

1. Bakinskoye byuro pogody Upravleniya gidrometeorologicheskoy sluzhby Azerbaydzhanskoy SSR.
(Azerbaijan--Winter) (Daghestan--Winter)

KOSHINSKIY, S.D.

Effect of shore orography on wind conditions of the Caspian Sea during northwest storms. Trudy GOIN 67:61-73 '62. (MIRA 15:7)
(Caspian Sea--Winds)

KERIMOV, A.A.; KOSHINSKIY, S.D.

Wind conditions in the eastern part of the Apsheron region. Izv.AN Azerb.SSR. Ser.geol.-geog.nauk i nefti. no.4:107-116 '61. (MIRA 15:1)

(Apsheron Peninsula--Winds--Meteorology)

L 23337-65 EWT(1)/FCC GM

ACCESSION NR: AT5001405 I/2667/64/000/026/0055/0063

AUTHOR: Koshinskiy, S. D.; Malyutina, A. A.

TITLE: A method for determining the mean amplitude of air temperature with clear, semi-overcast and overcast skies

SOURCE: Moscow. Nauchno-issledovatel'skiy institut aeroklimatologii. Trudy, no. 26, 1964. Klimatologiya (Climatology), 55-63

TOPIC TAGS: cloud, cloud cover, air temperature, climate, climatology

ABSTRACT: A study has been made to determine the degree of influence of cloud cover on the diurnal amplitude of air temperature. Data were analyzed separately for low clouds and total cloud cover. Data for six stations in different physicogeographic regions of Siberia were analyzed. For each station, the authors computed the mean diurnal amplitudes of air temperature during clear and overcast skies and then constructed curves of the annual variation. Fig. 1 of the Enclosure shows the annual variation of the amplitude for three of these stations, all located on the same meridian. The left-hand side of the figure shows the annual variation of temperature amplitude as a function of the total cloud cover; at the right the figure shows the annual variation as a function of low clouds. A similar comparison was made for stations situated under different topographic

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ACCESSION NR: AT5001405

conditions (plains, foothills, mountains). The data shown in Figures 1 and 2 of the Enclosure demonstrate graphically that in the summer, autumn and spring months it makes no difference what cloud-cover characteristic (low or total) is used in generalizing data on the diurnal amplitude of air temperature, but this is not true for winter. The cited examples show the advantage of using the characteristics of low clouds in analysis of temperature amplitude data. Another method for making such comparisons is also described and illustrated by an example. Orig. art. has: 4 figures and 6 tables.

ASSOCIATION: Nauchno-issledovatel'skiy institut aeroklimatologii, Moscow (Aero-climatology scientific research institute)

SUBMITTED: 00 ENCL: 02 SUB CODE: ES

NO REF SOV: 002 OTHER: 000

Card 2/4

L 23337-65
ACCESSION NR: AT5001405

ENCL: 01

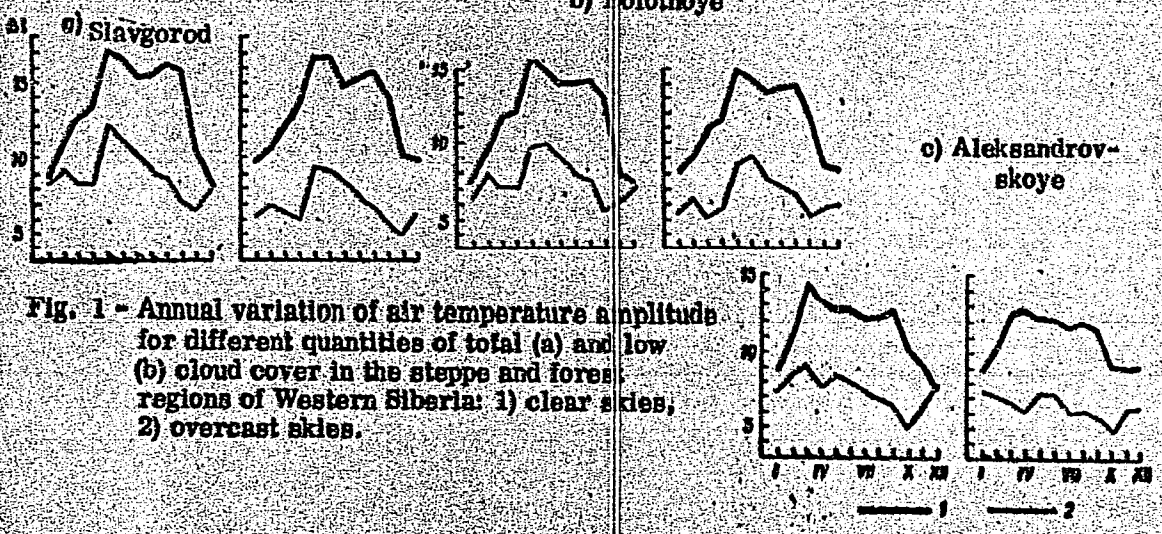


Fig. 1 - Annual variation of air temperature amplitude for different quantities of total (a) and low (b) cloud cover in the steppe and forest regions of Western Siberia: 1) clear skies, 2) overcast skies.

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L 23337-65

ACCESSION NR: AT5001405 ENCL: 02

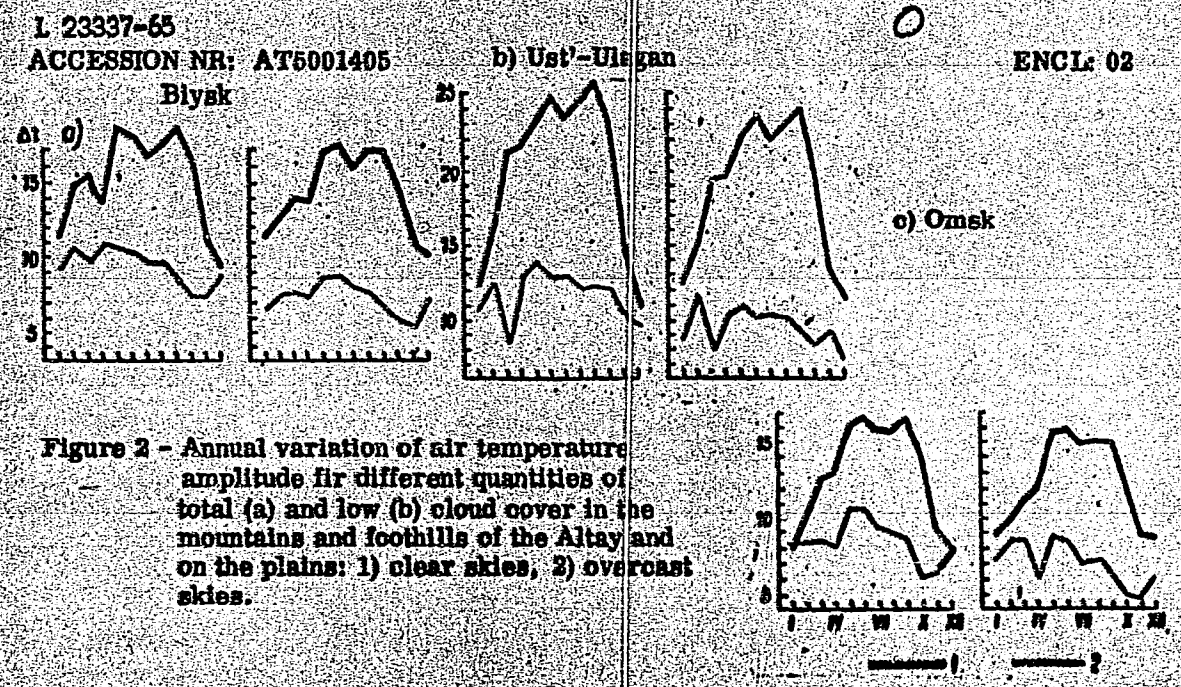


Figure 2 - Annual variation of air temperature amplitude for different quantities of total (a) and low (b) cloud cover in the mountains and foothills of the Altay and on the plains: 1) clear skies, 2) overcast skies.

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KOSHINSKIY, S.D.; TRUBCHIKOVA, T.A.

Principles of the regionalization of a territory according to the O and $P_t$- distribution in constructing probability tables of the "number of days with air temperature in the different limits in determined mean values." Trudy NIIAK no.33:11-20 '65. (MIRA 18:12)

KOSHINSKIY, S.D.

Using standard warranty curves for "smoothing" the frequencies of diurnal ranges of air temperature. Trudy NIIAK no.33:21-32 '65. (MIRA 18:12)

L 23335-65 EWT(1)/FCC GM
ACCESSION NR: AT5001407 S/2667/64/000/026/0085/0127

AUTHOR: Koshinskiy, S. D.

B+1

TITLE: Types of wind distribution over the Caspian sea and wind frequency, stability and sequence

SOURCE: Moscow. Nauchno-issledovatel'skiy institut aeroklimatologii. Trudy, no. 26, 1964. Klimatologiya (Climatology), 85-127

TOPIC TAGS: wind, wind velocity, wind direction, climatology, regional climatology

ABSTRACT: This paper discusses the areal distribution of wind velocity over the Caspian Sea characteristic of winds of different directions. There is an analysis of the probability of the development of storms originating from different directions and of differing intensity and duration. The results were obtained on the basis of actual observations of wind along the coast and on the islands of the Caspian Sea and on vessels sailing the Caspian Sea. This analysis is of importance due to the extensive development of onshore and offshore petroleum production in the Caspian area. There are five principal types of winds over the Caspian Sea: I -- northwesterly, II -- north-northeasterly, III -- east-northeasterly, IV -- southeasterly, V -- a vortical type of wind field. The wind regime of the Caspian Sea is determined by two factors: circulation of the

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atmosphere over the Caucasus, Caspian Sea and Central Asia and the orography along the western coast, which influences the direction of movement of air masses and the distribution of wind velocities. It is the orographic influence which is responsible for the predominance over the Caspian Sea of winds of southeasterly (35.9%) and northeasterly (19.2%) directions. The orographic influence is particularly important in the case of winds of gale force. During storms of a northerly direction the strongest winds are observed along the mountainous western coast with a maximum in the neighborhood of the Apsheron Peninsula. In the case of southeasterly (type IV-A) storms the strongest winds are observed in the northwestern part of the sea with an epicenter near Makhachkala. To a lesser degree the influence of orography on the distribution of wind velocities over the sea is manifested during southeasterly (type IV-B and V) storms. Type IV is most stable and type V is least stable. The mean duration of winds is as follows: southeasterly -- 55 hours, northwesterly -- 36 hours, north-northeasterly -- 28 hours, east-northeasterly -- 26 hours, and vortical -- 14 hours. Strong and gale-force winds are on the average 33-50% shorter in duration. Severe storms with a velocity greater than 25 m/sec. occur only once in 10-20 years; their duration is 6-7 hours, although those from the southeastern quadrant can persist for up to 24 hours. Orig. art. has: 8 figures and 16 tables.

ASSOCIATION: Nauchno-issledovatel'skiy institut aeroklimatologii, Moscow (Aeroclimatology scientific research institute)

L 23335-65
ACCESSION NR: AT5001407

SUBMITTED: 00 ENCL: 00 SUB CODE: ES

NO REF SOV: 018 OTHER: 000

Card 3/3

L 02340-67 EWT(1) GW

ACC NR: AR6029448 SOURCE CODE: UR/0169/66/000/005/B038/B039

34
B

AUTHOR: Koshinskiy, S. D.; Sementinova, N. B.

TITLE: Quantitative evaluation of the effect of the topography on the wind condition at the observation points

12

SOURCE: Ref. zh. Geofizika, Abs. 5B261

REF SOURCE: [Tr.] Novosib. fil. N.-i. in-ta aeroklimatol, vyp. 1, 1965, 93-103

TOPIC TAGS: wind, wind direction, topography, wind velocity

ABSTRACT: During the preparation of "A manual on the climate of the USSR, Ch. III: Wind," it was necessary to evaluate the degree of weather-vane opening at each station to obtain representative values of the wind observations. This value is obtained by the technique developed by Milevskiy. The authors offer a critical review of the classifications of the weather-vane positions by Podtyagin, Saposhnikora and Milevskiy and arrive at the conclusion that the effect of topography on the wind conditions at observation points is more suitably determined by the Saposhnikova method. The authors proposed the shield parameter W and a parameter of daily amplitude of the wind velocity:

$$A_v \cdot W = V_{annual}/V_{given\ location}$$

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to express the ratio of the actural mean annual velocity of the wind to the background in a given location and

$$A_v = \overline{V}_{13}/\overline{V}_{01}$$

to express the ratio of the mean velocity in 13 hours to the mean velocity in 1 hour. A statistical relationship was established between W and $A_v$. The authors propose to obtain the value for the effect of the area surrounding the station on the weather-vane reading by using the 4-point scale proposed by Saposhnikova, with a supplementary indicator giving the exact quarter of the horizon in which the obstacles are located with respect to the location of the weather vane. The appendix of the article contains given values of the mean annual and July (01—13 hours) wind velocities, the shield parameter, the coefficient of daily variation, and the type of weather-vane shielding for several stations in West Siberia. A. Artanova. [Translation of abstract]

SUB CODE: 04/

Card 2/2

KOSHINSKY, S.I.

Vibration finishing of parts of motor vehicles. Avt. prom. 30 no.3:44-46 Mr '64. (MIRA 17:6)

BOGOVIK, L. [Bohovyk, L.], inzh.; KOSHITS, Yu. [Koshyts', IU.], inzh.; LEBED', A. [Lebid', A.], inzh.

Adapting revolving milking parlors on dairy farms. Sil'. bud. 13 no.2:6-7 F '63. (MIRA 16:2)

Kosh.Ts. Yu

KOSHITS, Yu., inzh.; KRAVCHENKO, V., arkhitektor.

Standardized precast reinforced concrete components manufactured by collective farm organizations. Gor.i sel.stroi. no.8/9:17-18 Ag-S '57. (MIRA 10:12)

(Precast concrete) (Farm buildings)

KOSHITS, Yu. [Koshits', IU], inzh.

New standard plans for granaries. Sil'. bud. 9 no.2:15-16 F '59.
(MIRA 12:6)

(Granaries)

KOSHITS, Yu. [Koshyts', IU.], inzh.

Methods of lowering construction costs of agricultural structures. Sil'.bud. 9 no.6:4-5 Je '59. (MIRA 12:9)
(Farm buildings)

KOSHITS, Yu.I.; VELIKA, Z.R.[Velyka, Z.R.]; RAYKO, V.I.[Raiko, V.I.]; ONISHCHENKO, M.Yu.[Onyshchenko, M.IU.]; BUTSENKO, M.A.; KRAVCHENKO, V.Ya., red.; SLYN'KO, B.I., red.; GRISHKO, T.I. [Hryshko, T.I.], tekhn. red.

[Buildings on livestock farms] Budivli tvarynnyts'kykh ferm; budivel'na i proektna praktyka. Za red. V.IA.Kravchenka. Kyiv, Derzhbudvydav URSR, 1962. 89 p. (MIRA 16:5)

1. Akademiya budivnytstva i arkhitektury URSR. Naukovo-doslidnyi instytut arkhitektury sporud.
(Farm buildings—Design and construction)

SOKOLOV, Ya.N.; OSINSKIY, A.V.; KOSHLYETS, A.S.

Pegmatites of the Kenkol granite massif. Trudy VSEGEI 108:132-163 '64. (MIRA 18:2)

Koshka, A. P.

130-9-11/21

AUTHOR: Koshka, A.P.

TITLE: Increasing the Productivity of Type 420 Rotary Shears. (Uvelicheniye proizvoditel'nosti diskovykh nozhnits 420).

PERIODICAL: Metallurg, 1957, Nr 9, pp.24-26 (USSR)

ABSTRACT: The rotary shears discussed were designed for trimming and dividing coiled metal in the middle bay of a cold-rolling shop. The coiled metal is .700 mm wide and 1.5-4 mm thick and has to be divided into 2-15 strips and in their original form the shears formed a bottleneck in the overall process. The measures taken to increase the productivity of the shear installation included the provision of a roller coil store, an uncoiler, a roller handler and a bogie at the coiler. Time schedules of the operation of the reconstructed shears are given as are tables showing breakdowns of operations and setting as carried out by different teams. Time and motion studies enabled further productivity increases to be obtained, leading to the 1956 and 1957 figures being about twice the 1950 values and to considerable economies. Diagrams of the installation before and after reconstruction are given.

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130-9-11/21

Increasing the Productivity of Type 420 Rotary Shears.

There are 4 figures, 2 tables.

ASSOCIATION: Novosibirsk Metallurgical Works. (Novosibirskiy Metallurgicheskiy Zavod)

AVAILABLE: Library of Congress.

Card 2/2

Koshka, A.P.

AUTHORS: Koshka, A.P. and Brusilovskiy, V.A. 130-3-13/21

TITLE: Modernization of the equipment of a sheet mill. (Modernizatsiya oborudovaniya tonkolistovogo tsekha).

PERIODICAL: Metallurg, 1958, No.3, pp.27-28 (USSR).

ABSTRACT: The authors describe the mechanization and modernization of existing equipment in No.4 cold-rolling shop at the Novosibirsk Metallurgical Works. By lengthening the pickling baths a 10% increase in pickling rate was obtained, the supporting-roller being placed above instead of on the space occupied by the lengthened part of the baths. By changing the gearing on the rollers before and after the baths the speed of the strip through the pickling line was increased to 100 - 120 m/min. The uncoiler lift mechanism frequently used to become blocked by scale: replacement of screw by hydraulic jacks (suggested by G. K. Ravilov) solved this difficulty. These measures are said to have increased the productivity of the pickling plant to double its rated value. The modernization of the 3-stand cold strip mill consisted in drive changes which accelerated the speeds of the working rolls of the first and second stands and increased productivity by 4%. Another improvement in

Card 1/2

Modernization of the equipment of a sheet mill. 130-3-13/21

the 740 mill was the replacement of the radial thrust bearings in the strip-gripping mechanism of the coiler by a type more suitable for the service conditions. In the finishing department cast iron rollers were substituted for felt ones for oiling the sheets, the oil distribution was centralized and sheet stacking was mechanised.

ASSOCIATION: Novosibirsk Metallurgical Works. (Novosibirskiy Metallurgicheskiy Zavod).

AVAILABLE: Library of Congress.

Card 2/2

KOSHKA, A.P.; KAYGORODOV, M.M.

Crimped steel brushes. Metallurg 5 no.9:32-33 S '60.
(MIRA 13:8)

1. Novosibirskiy metallurgicheskiy zavod.
(Metal cleaning--Equipment and supplies)

KOSHKA, A.P., inzh.-mekhanik

Machine for the assembly and dismantling of rolls. Metallurg 6 no.5:32 My '61. (MIRA 14:5)

1. Novolipetskiy metallurgicheskiy zavod.
(Rolling mills--Equipment and supplies)

KOSHKA, Aleksey Petrovich, inzh.; KOPELNOVICH, B., red.; KARZHAVINA, Ye., tekhn.red.

[Journey of a steel strip] Puteshestvie stal'noi lenty. Lipets, Lipetskoe knizhnoe izd-vo, 1962. 30 p. (MIRA 16:4)

1. Zamestitel' nachal'nika tsekha kholodnogo prokata Novolipetskogo metallurgicheskogo zavoda (for Koshka).
(Steel—Metallurgy) (Rolling (Metalwork))

KOSHKA, A.P.; PEDOS, I.F.; LIPUKHIN, V.A.

Designing continuous units for pickling. Metallurg 9 no.9:25-27 S '64. (MIRA 17:10)

1. Novolipetskiy metallurgicheskiy zavod (for Koshka, Pedos).
2. Gosudarstvennyy komitet tyazhelogo energeticheskogo i transportnogo mashinostroyeniya (for Lipukhin).

KOSHKA, Aleksey Petrovich; BRINZA, Vladimir Nikolayevich; KOROLEV, A.A., prof., retsenzent;

[Equipment of cold rolling mills] Oborudovanie tsekhov kholodnoi prokatki. Moskva, Izd-vo "Metallurgiia," 1964. 208 p. (MIRA 17:5)

L 31807-65 EWT(m)/EWA(d)/EWP(t)/EWP(k)/EWP(b) Pf-4 JD/HW
AM4043251 BOOK EXPLOITATION S/

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B+1

Koshka, Aleksey Petrovich; Brinza, Vladimir Nikolayevich

Equipment for cold-rolling mills (Oborudovaniye tsekhov kholodnoy prokatki) Moscow, Metallurgizdat, 1964. 208 p. illus., biblio. Errata slip inserted. 2460 copies printed. Editor of the publishing house: M. R. Lanovskaya; Technical editor: P. G. Islent'yeva

TOPIC TAGS: cold rolling, sheet, steel, sheet steel

PURPOSE AND COVERAGE: This book was intended for engineers and technicians who utilize cold-rolling equipment and for those who design such equipment. It may be of use to students specializing in the technology and the automation of the rolling process and rolling-mill construction. Problems of utilizing equipment for cold rolling thin strip are clarified, the design of machinery and mechanisms is analyzed, and certain questions in the mechanization and automation of technological processes are studied. The authors express their gratitude to Professor A. A. Korolev.

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SUB CODE: MM SUBMITTED: 04Nov63 NR REF SOV: 027

OTHER: 025

Card 2/2

BRINZA, Vladimir Nikolayevich; KOSHKA, Aleksey Petrovich

[Improving the performance of rolling mills for the cold rolling of sheet steel] Povyshenie proizvoditel'nosti stanov kholodnoi prokatki tonkolistovoi stali. Moskva, Metallurgiia, 1965. 138 p. (MIRA 18:5)

KOSHKA, A.P.; PEDOS, I.F.; BRINZA, V.N.

Making use of emulsions and lubricants from cold rolling mills. (MIRA 18:8)
Metallurg 10 no.8:28-29 Ag '65.

1. Novolipetskiy metallurgicheskiy zavod.

ANAGORSKIY, L.A., kand. tekhn. nauk; KOSHKA, A.P., inzh.

Welding of transformer steel. Svar. proizv. 12:13-14 D '63.
(MIRA 18:9)

ACC NR. AM5015043 ..... BOOK EXPLOITATION ..... UR/

Brinza, Vladimir Nikolayevich; Koshka, Aleksey Petrovich

Raising the productivity of mills for cold rolling thin-sheet steel (Povysheniye proizvoditel'nosti stanov kholodnoy prokatki tonkolistovoy stali) Moscow, Izd-vo "Metallurgiya", 1965. 138 p. illus., biblio. 2337 copies printed. Editor: of the publishing house: Yu. V. Vladimirov; Technical editor: N. A. Korovina

TOPIC TAGS: cold rolling, sheet metal, rolling mill, steel manufacture process

PURPOSE AND COVERAGE: This book was intended for engineers and technicians in rolling-mill shops and for designers of rolling mills; it may be of use also to students in vuzes studying the forming of metals. The operation of cold-rolling mills for sheet steel is analyzed. The technological processes involved in the production of sheet and factors influencing mill productivity are investigated. Measures to increase the productivity of individual mills are described.

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UDC: 621.771.24

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14-57-6-12321

Translation from: Referativnyy zhurnal, Geografiya, 1957, Nr 6, p 86 (USSR)

AUTHOR: Koshkalda, V. A.

TITLE: Observations on the Oxygen Content of the Tashkeprinskoye Reservoir (Nablyudeniya za kislorodnym rezhimom Tashkeprinskogo vodokhranilishcha)

PERIODICAL: Tr. Murgabsk. gidrobiol. st., Nr 3, pp 118-134, 1955

ABSTRACT: The study of this reservoir (R) led to the acquisition of information on oxygen content in the R's of desert zone (through hydrobiological investigations made in 1948 and in 1951-1953). Absolute $O_2$ content in the water of the Murgab River (containing the head of the Tashkeprinskoye R) varied from 7.6 mg/l in summer to 11.1 mg/l in winter. Water saturation with $O_2$ during the period of observations varied from 71 to 105 percent. The $O_2$ content in the river increased downstream and waters quite rich in

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14-57-6-12321

Observations on the Oxygen Content (Cont.)

$O_2$ enter R. The $O_2$ saturation of waters in the Tashkeprinskoye R ranges from 80 to 97 percent (of full saturation). Mixing of the water mass constitutes the main factor in $O_2$ vertical distribution. Variation in the $O_2$ saturation of water during an annual cycle follows the change in the transparency of water and depends on the amount of suspended matter. Near the bottom $O_2$ is held through the year. The amount of $O_2$ in the Tashkeprinskoye R has created conditions very favorable to the development of aquatic organisms.

G. A.

Card 2/2

KOSHKALDA, V.A.

Some data on the hydrology of the Tedzhen River and Tedzhen Reservoir. Trudy Murg.gidrobiol.sta no.4:5-11 '58. (MIRA 15:8)
(Tedzhen River--Hydrology) (Tedzhen Reservoir--Hydrology)

KOSHKALDA, V.A.

Characteristics of the chemistry of water in Tedzhen Reservoir. Trudy Murg.gidrobiol.sta. no.4:23-96 '58. (MIRA 15:8)
(Tedzhen Reservoir--Water--Composition)

KOSHKALDA, V.A.

Materials on the chemistry of the bodies of water of the Murgab River. Trudy Murg.gidrobiol.sta. no.4:146-168 '58. (MIRA 15:8)
(Murgab Valley--Water--Composition)

KOSHKALDA, V.G.; RAUKHVERGER, A.B.

Mechanism of the formation of annular fractures of the bones at the skull base. Sud.-med. ekspert. 6 no.3:52-53 Jl-S '63. (MIRA 16:10)

1. Odesskoye oblastnoye byuro sudebnomeditsinskoy ekspertizy (nachal'nik - dotsent S.B. Gol'dshteyn).
(SKULL — FRACTURE) (TRAFFIC ACCIDENT INVESTIGATION)

KOSHKAREV, A., starshiy referent

Consolidation of international trade-union relations. Avt.transp. 40 no.4:56-57 Ap '62. (MIRA 15:4)

1. TSentral'nyy komitet profsoyuza rabotnikov svyazi, rabochikh avtotransporta i shosseynykh dorog.
(Russia--Relation (General) with foreign countries)

KOSHKAREV, A.

In Sweden. Za rul. 15 no.3:18-19 Mr '57. (MLRA 10:5)
(Sweden--Automobiles)

KOSHKAREV, A.

Important tasks of the Trade Union. Za rul. 16 no.7:10 Jl '58.
(MIRA 11:10)

1. Starshiy inspektor TSentral'nogo komiteta profsoyuza rabotnikov svyazi, rabochikh avtotransporta i shossëynykh dorog.
(Trade unions) (Transportation, Automotive)

KOSHKAREV, A.

Improvement of international relations. Za rul. 17 no.5:6-7 My '59. (MIRA 12:8)

1. Starshiy referent po mezhdunarodnym svyazyam TSentral'nogo komiteta profsoyuza rabotnikov svyazi, rabochikh avtotransporta i shosseynykh dorog.
(Russia--Relations (General) with foreign countries)

KOSHKAREV, A., starshiy referent

Delegates of Hungarian highway transport workers in the U.S.S.R. (MIRA 12:12)
Avt. transp. 37 no.8:60 Ag '59.

1.TSentral'nyy komitet profsoyuza po mezhdunarodnym svyazyam.
(Russia--Relations (General) with Hungary)
(Hungary--Relations (General) with Russia)

KOSHKAREV, A.

Strengthening and expanding the international relations of our Trade Union. Avt. transp. 38 no. 5:8-9 My '60. (MIRA 14:2)

1. Starshiy referent TSentral'nogo komiteta profsoyuza rabotnikov svyazi, rabochikh avtotransporta i shosseynykh dorog.
(Highway transport workers)

KOSHKAREV, A.

International relations of our Trade Union. Avt.transp. 39 no.4: 8 Ap '61. (MIRA 14:5)
(Trade unions) (Highway transport workers)

ZAVGORODNIY, V.P.; KOSHKAREV, A.P.; SHLYAKHOVOY, V.G., red.; LYSIK, O.I., tekhred.

[Our sunny region; economy and culture of Kherson Province during the years of the Soviet regime] Nash solnechnyi krai; ekonomika i kul'tura Khersonshchiny za gody Sovetskoi vlasti. Kherson, Khersonskoe knizhno-gazetnoe izd-vo, 1960. 123 p. (MIRA 13:11)

(Kherson Province---Economic conditions)

KOSHKAREV, A.P.

Trends in the development of foundry practices in an economic region. Lit. proizv. no.12:11-13 D '61. (MIRA 14:12)
(Kherson Economic Region--Foundries)

KOSHKAREV, A.P.

Concentration and specialization of founding in the Kherson Economic Council. Vest.mashinostr. 42 no.11:76-78 N '62. (MIRA 15:11)

(Kherson Province—Founding)

KOSHKAREV, D.G.

SUBJECT USSR / PHYSICS CARD 1 / 2 PA - 1509
AUTHOR VLADIMIRSKIJ,V.V., KOMAR,E.G., MINC,A.L., GOL'DIN,L.L., KOŠKAREV,D.G., MONOSZON,N.A., NIKITIN,S.JA., RUBČINSKIJ,S.M. SKAČKOV,S.V., STREL'COV,N.S., TARASOV,E.K.
TITLE The Main Characteristics of the Projected Proton Accelerator for 30-60 BeV with Strong Focussing.
PERIODICAL Atomnaja Energija, 1, fasc. 4, 31-33 (1956)
Issued: 19.10.1956

The maximum energy selected is certainly sufficient for the multiple production of mesons and for the production of the antiparticles of all known types of elementary particles. With a particle energy of from 50 to 60 BeV the kinetic energy in the center of mass system attains 9 nucleon masses on the occasion of the collision of a proton with a single nucleon. The peak power used for feeding the magnet is about 100 megawatts. The weight of the magnet system is less than 22.000 t. For the stabilization of the phase near transition energy a system for the compensation of the oscillations of the length of the particle orbit is used in this project by means of which the critical energy is shifted to infinity. With this compensation process the enforced oscillations of particles, the energy of which is distinguished from the equilibrium momentum, are used. Every eigth magnet has an inversely directed magnetic field, and the order of this magnet is periodically changed. This compensation system makes it possible to attain rather high frequencies of the transversal oscillations of the particles, viz. 13,75 and 12,75 per revolution in the case of radial and vertical




oscillations respectively. The maximum field strength in the orbit is from 10.000 to 12.000 Ørstedt and the length of the orbit is 1483 m. The main parameters of the orbit, the tolerances for the accuracy of the magnetic field, the data concerning the feeding of the magnetic system, and the most important data concerning the high frequency system are shown in tables. Among others the following values are given: Total number of magnets: 120, radius of the curvature of the principal magnet: 166,1 m; permitted deviation of momentum: 0,5%; permitted deviation of field strength: 0,25%; duration of the increase of the magnetic field: 3,8 sec, 6 cycles per minute; maximum strength of excitation current: 12 000 a; maximum voltage: 8 000 V; peak power: 96 000 kVA; frequency of the accelerating field at the beginning and at the end of the cycle of acceleration: 2,624 and 6,068 megacycle respectively. The magnets must consist of 5 parts weighing 38 t each, but they have one common winding. The total weight of the magnets together with constructional elements amounts to 22 000 tons. The peak power of 100 megawatts is generated by means of generators with flywheels. A linear accelerator for 100 MeV serves as injector. The proton absorbs ~ 100 keV per revolution.

INSTITUTION:

KOSHKAREV, D.G.

BERESTETSKIY, V.B.; GOL'DIN, L.L.; KOSHKAREV, D.G.

Injection of particles into the alternating-gradient accelerator chamber. Prib.i tekh.eksp.no.3:26-31 N-D '56. (MLRA 10:2)
(Particle accelerators)

KOSHKAREV, D G.

VLADIMIRSKIY, V.V.; GOL'DIN, L.L.; DANIL'TSEV, Ye.N.; KOSHKAREV, D.G.; MEYMAN, N.N.

Ejection of proton beams from the 7 BEV alternating-gradient accelerator. Prib.i tekh.eksp.no.3:31-35 N-D '56.
(Particle accelerators) (MLRA 10:2)

KOSHKAREV, D G.

SUBJECT USSR / PHYSICS CARD 1 / 2 PA - 1925
AUTHOR GOL'DIN,L.L., KOŠKAREV,D.G.
TITLE The Synchrotron Oscillations in an Accelerator with Strong Focussing. I. The Linear Theory.
PERIODICAL Žurn.eksp.i teor.fis,31,fasc.5,803-814 (1956)
Issued: 1 / 1957

The equations of synchrotron-oscillations: The acceleration of particles with the charge e is investigated. The maximum energy attained after the rotation of a particle is eu. Those particles are described as being in equilibrium which maintain a constant phase shift with respect to the accelerating electric field. For the modification of the momentum of the particle which is in equilibrium the following equation is found: $dp/dt = eu \sin \bar{\varphi} /L$. Here L denotes the length of the orbit of the particle and $\bar{\varphi}$ - the phase of the acceleration of the particle in equilibrium. The particles which are not in equilibrium are characterized by the deviations $\pi$ and $\varphi$ of their momentum and phase respectively from the momentum and phase of the particles which are in equilibrium. In the case of small deviations it is then true that $d\pi/dt = (eu \cos \bar{\varphi}/L)\,\varphi + (e \sin \bar{\varphi}/L)\,\Delta u/u$. For the deviations of the phase it is true that $d\varphi/dt = \Delta\omega_p - q\,\Delta\omega$. Here $\Delta\omega_p$ denotes the radiotechnical deviation of the frequency and $\Delta\omega$ - the deviation of the rotation frequency of particles from their ideal values. The equation for free oscillations is determined and the behavior of $\varphi$ on the occasion of passage through the critical point is discussed

the noise is studied. Resonance causes oscillations to swing considerably.

INSTITUTION:

KOSHKAREV, D. G., VLADIMIRSKIY, V. V., GOLDIN, L. L., DANILTSEV, E. N.
MEYMAN, N. N.

"Deflection of the Beam of a 7 GeV Strong Focusing Proton Accelerator," paper presented at CERN Symposium, 1956, appearing in Nuclear Instruments, No. 1, pp. 21-30, 1957

KOSHKAREV, D. G.

AUTHOR: Koshkarev, D. G. 120-2-3/37

TITLE: The Influence of Scattering on Synchronous Oscillations of Particles in Accelerators. (Vliyaniye Rasseyaniya na Gaze na Sinkhrotronnyye Kolebaniya Chastits v Uskoritelyakh.)

PERIODICAL: Pribory i Tekhnika Eksperimenta, 1957, No.2, pp. 15 - 18 (USSR).

ABSTRACT: In synchronous accelerators the elastic scattering of particles in the residual gas may be neglected, since the scattering influences only the betatron oscillations, (equations 1 and 2). The non-elastic scattering leads to losses in the momentum of the accelerated particles, and, since the losses are finite, they influence the synchrotron oscillations. An analysis of this effect is given using the linear theory of synchrotron oscillations without taking into account the adiabatic attenuation. Formulae are derived for the evaluation of the percentage of lost particles (20) and for the increase of the mean square amplitude of phase oscillations (30). It can be seen from the analysis that the losses occur mainly at low energies and that the magnitude of this effect depends on many and that the magnitude of this effect depends on many parameters of the accelerator and does not exceed the

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The Influence of Scattering on Synchronous Oscillations of Particles in Accelerators. 120-2-3/37



magnitude of the effect introduced by elastic scattering. The analysis has been used in an experimental evaluation of the effect for the synchrophasotron of the Joint Institute of Nuclear Research of the Academy of Sciences USSR (Ob'edinennyi Institut Yadernykh Issledovanniy) at 10 BeV and at a chamber pressure of $6 \times 10^{-6}$ mm Hg. The computed losses give the figure of 30%. Since the exact evaluation of maximum amplitude of phase oscillations $\varphi_{max}$ is not possible within the applied theory of linear approximation, the author has assumed a value of $\varphi_{max} = 0.7$ as used in the equations 30, 31 and 32. T. Seiden (equation 5) has obtained a similar result to equation 29 for the oscillations of particle pulse, taking into account the attenuation. He has found it possible (as shown in the appendix) to substitute $\Delta E^2$ into the formula $(\overline{\Delta E})^2$ and did not use the Fokker-Planck equation, (equations 6 and 7). There are 5 references, 2 of which are Slavic. The following have contributed towards the work: L. L. Gol'din, A. P. Fateyev and A. A. Kolomenskiy.

SUBMITTED: October, 5, 1956.

Card 2/3

KOSHKAREV, D. G.

GOL'DIN, L.L., KOSHKAREV, D.G.

Linear theory of synchrotron oscillations. Part 2: Particle losses during the acceleration process and the theory of tolerances. Prib.i tekh.eksp. no.3:3-9 My-Je '57. (MLRA 10:9)
(Synchrotron) (Particles, Elementary)

1 Koshkarev, D.G.

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SYNCHROTRON OSCILLATIONS IN ST[illegible] ONG FOCUSING
ACCELERATORS. I. LINEAR THEOR[illegible], Zh. Tekh. Fiz'ika
and D. G. Koshkarev. Soviet Phys. JET[illegible] 3, 681-90(1957)
June.

The equations which describe synchr[illegible]ron oscillations in
strong focusing accelerators are exami[illegible]d, taking into ac-
count the relations between the field and [illegible]the frequency. A
general solution is found which describe[illegible] the oscillations
both in the adiabatic and in the critical [illegible]gion and the cor-
responding integrals of motion are obtai[illegible]ed. It is shown
that the motion in the critical region can [illegible]e simply de-
scribed by means of the "effective frequ[illegible]ncy" of the oscil-
lations. The effect of fluctuations of the [illegible]dio frequency, of
the accelerating voltage and of the magne[illegible]c field is con-
sidered, along with the question of the in[illegible]uence of noises
on the synchrotron oscillations. The tran[illegible]sition through the
critical point is studied. The computation[illegible] are carried to
the point of the derived formulas which d[illegible]etermine the
tolerances for the corresponding fluctuati[illegible]ns. (auth)

RMA

SOV/120-58-6-3/32

AUTHORS: Koshkarev, D. G. and Orlov, Yu. F.

TITLE: Parametric Resonances of Phase Oscillations in a Synchrotron (Parametricheskiye rezonansy fazovykh kolebaniy v sinkhrotrone)

PERIODICAL: Pribory i tekhnika eksperimenta, 1958, Nr 6, pp 19-22 (USSR)

ABSTRACT: Parametric resonance in phase oscillations appears when the frequency of the oscillations which depends on the accelerating voltage, is disturbed. The accelerating voltage may be disturbed by, for example, various noise modulations or by pick-up at mains frequency. Since in the process of acceleration the frequency of the oscillations varies within very wide limits, the accelerated particle passes through many weak resonances. When the particles pass through many parametric resonances instability of phase oscillations may set in. A condition is derived for the stability of the phase oscillations and non-linear effects are estimated. The stability condition is derived from an equation of the form:

$$\frac{d\overline{A}^2}{dt} = \left(\frac{\Omega^2}{32}\eta - \rho_2\right)\overline{A}^2 + b \quad , \qquad (17)$$

Card 1/2 where $A$ is the amplitude of phase oscillations, $\Omega$ is the

Parametric Resonances of Phase Oscillations in a Synchrotron

frequency, $\rho_2$ describes the damping and b the effect of other non-parametric perturbations. $\eta - \eta_{noise} = \pi a^2 / \Delta\Omega$ where a is given by :

$$u = u_c + au_o \cos(wt + \gamma) ,$$

where the second term on the right hand side describes the perturbation of the accelerating voltage u . There are no figures but there are 4 Soviet references.

SUBMITTED: November 1, 1957.

Card 2/2

SOV/120-58-6-7/32

AUTHORS: Vladimirskiy, V. V. and Koshkarev, D. G.

TITLE: An Achromatic Bending Magnetic System (1) (Akhromaticheskaya povorachivayushchaya magnitnaya sistema (1))

PERIODICAL: Pribory i tekhnika eksperimenta, 1958, Nr 6, p 46 (USSR)

ABSTRACT: When a non-monoenergetic beam is bent in a magnetic field through an angle $\vartheta$ the beam assumes an angular divergence $\varphi$ given by:

$$\varphi = \sin\vartheta \frac{\Delta p}{p_o} \qquad (1)$$

where $\Delta p$ is the deviation of the momentum of the particle from the calculated value $p_o = H_o R_o$, $R_o$ is the radius in the magnet. The resulting imaginary focus lies at a distance of $l_{AB}$ from the rear section of the magnet, where:

$$l_{AB} = -R_o \operatorname{tg} 1/2\vartheta \quad . \qquad (2)$$

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An Achromatic Bending Magnetic System (1)

In many cases such a divergence cannot be tolerated. This disadvantage may be removed by using a system in which the bending through the given angle $\vartheta$ is carried out by two flat magnets which bend to the same side and are placed at a certain distance $l_{BC}$ apart (Fig.1). For simplicity, it is assumed that $\vartheta = 2\Phi$ . Between the magnets there is a focussing system consisting of quadripole lenses. Such a system is achromatic to the second order in $\Delta p/p_o$ and, in particular, for short lenses,

$$\varphi \simeq \frac{8}{\pi} \cos \Phi \cos^2 \Phi/2 \cdot \frac{l_{AD}}{R_o} \left(\frac{\Delta p}{p_o}\right)^2 \qquad (3)$$

The distance between the imaginary foci $l_{AD}$ may be written down in the units of the magnitude of the imaginary focus $l_{AB}$ and in this case, formula (3) takes on the simpler form:

$$\varphi \simeq \frac{2n}{\pi} \sin \vartheta \left(\frac{\Delta p}{p_o}\right)^2 \qquad (4)$$

An Achromatic Bending Magnetic System (1)

where $n = l_{AD}/l_{AB} (n \sim 3 \div 5)$ . A comparison of Eqs.(1) and (4) shows that this system will reduce by one order the angular spread in the beam due to bending in the magnetic field. An analogous system has been described by Panofsky and McIntyre (Ref.1). There is 1 figure and 1 English reference.

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ABSTRACT: This paper is a continuation of the work first reported in(Ref.1). It was shown there, and in (Ref.2), that existing synchrotron theories do not go beyond computation of the upbuilding of synchrotron oscillations produced by various types of perturbations such as noise modulation of the magnetic field strength, frequency or amplitude of the accelerating voltage, and the ripple modulation of these quantities with synchrotron oscillation frequencies. For tolerance oscillations, however, it is not the increment of the synchrotron oscillation amplitude that is required but rather the fraction of particles lost as a consequence of action of the perturbations. It was shown in (Ref.1) that in regions which are remote from the critical point, synchrotron oscillations obey the equation:

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Linear Theory of Synchrotron Oscillations. II- Particle Losses During Acceleration and the Tolerance Thoery.

$$\varphi = (\Omega/\Omega_1)^{1/2}\left[C_1\cos\Omega x + C_2\sin\Omega x\right] \quad , \qquad (1)$$

where $x = pc/E_o$, $p$ is the particle momentum, $c$ is the velocity of light, $E_o$ is the rest energy of the accelerated particles, $\Omega$ is the frequency of the synchrotron oscillations at an arbitrary moment (with respect to $x$), and $\Omega_1$ is the value of $\Omega$ at injection. The relation between $x$ and $t$ (acceleration time) is expressed by the formula:

$$dx/dt = ceu \sin \Phi/E_oL \qquad (2)$$

where $e$ is the particle charge, $eu$ the maximum energy, which can be acquired by a particle during a revolution, $\Phi$ the equilibrium acceleration phase and $L$ the orbit length. In the absence of perturbations amplitudes $C_1$ and $C_2$ are integrals of motion and are called "particle co-ordinates".

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Linear Theory of Synchrotron Oscillations. II - Particle Losses During Acceleration and the Tolerance Theory.

A function $P_1(C_1, C_2, x)$ is introduced which is the probability that the particles will be in the vicinity of the point $C_1$, $C_2$ at the moment $x$. In evaluating $P_1$ a particle is considered lost if it enters at least once the region of unstable motion. This problem can be solved by means of the Fokker-Planck equation. The probability function $P$ for a real particle distribution can be obtained by putting $P$ equal to the particle distribution at the moment of injection. The integral of $PdC_1dC_2$ taken over the region of stable motion yields the mathematical expectation of the number of remaining particles. If the perturbations do not exactly repeat themselves from cycle to cycle $P$ may also be considered as the average particle distribution in $C_1$ and $C_2$, averaged over a set of cycles. Non-linearity of the equations and gas scattering may lead to the result that the perturbations of the various particles cease to be identical and in this case $P$ will describe to a certain degree the particle distribution in $C_1$ and $C_2$ even during a single cycle. The Fokker-Planck equation is set